PATENT 10/039,956 Docket 091/009¢

CLAIM AMENDMENTS

(Withdrawn) A composition comprising proliferating primate pluripotent stem (pPS) cells, which is
essentially free of feeder cells.

2 to 15, CANCELLED

- 16. (Currently amended) A method of screening a substance, comprising contacting a differentiated cell according to claim 15 with the substance, and, determining any phenotypic or metabolic changes in the cell that result from contact with the compound, and correlating the change with cellular toxicity or modulation : wherein the differentiated cell has been obtained by:
 - a) obtaining a line of human embryonic stem cells growing on an extracellular matrix instead of feeder cells; and
 - b) causing cells in the culture to differentiate into the population of differentiated cells.

17 to 36. CANCELLED

- 37. (Currently amended) The method of claim 16, A method of screening a substance, comprising:
 - a) obtaining a culture of undifferentiated pPS cells proliferating in a growth environment that is essentially free on an extracellular matrix instead of feeder cells;
 - b) optionally causing or permitting the pPS cells to differentiate; then
 - c) combining the cells with the substance; and
 - d) determining any effect of the substance on the cells.
- 38. (Currently amended) The method of claim 37, wherein the extracellular matrix upon which the undifferentiated pPS cells are cultured en extracellular matrix components (cuch as Matrigel®, laminin, or collagen) in the absence of feeder cells is Matrigel® basement membrane matrix, laminin, or collagen.
- 39. (Previously presented) The method of claim 37, wherein the cells are undifferentiated when contacted with the substance.
- 40. (Previously presented) The method of claim 37, wherein the cells have been caused or permitted to differentiate before being contacted with the substance.
- 41. (Previously presented) The method of claim 40, wherein the cells have been caused to differentiate by a process comprising replating them onto a surface that promotes differentiation.

- 42. (Previously presented) The method of claim 40, wherein the cells have been caused to differentiate by adding component(s) to the medium that promote differentiation towards a particular cell lineage.
- 43. (Previously presented) The method of claim 40, comprising causing the cells to differentiate into cells having characteristics of neuronal cells, glial cells, or neural precursors.
- 44. (Previously presented) The method of claim 40, comprising causing the cells to differentiate into cells having characteristics of hepatocytes.
- 45. (Previously presented) The method of claim 37, wherein the pPS cells are human embryonic stem (hES) cells.
- 46. (Previously presented) The method of claim 37, comprising determining the effect of the substance on growth of the cells.
- 47. (Previously presented) The method of claim 37, comprising determining whether the compound affects differentiation of the cells.
- 48. (Previously presented) The method of claim 37, comprising determining whether the compound affects expression of a marker or receptor by the cells.
- (Previously presented) The method of claim 37, comprising determining whether the compound
 affects release of a marker or enzyme from the cells
- (Previously presented) The method of claim 37, comprising determining whether the compound
 affects DNA synthesis or repair in the cells.
- (Previously presented) The method of claim 37, comprising analyzing the cells by metaphase spread.
- 52. (Previously presented) The method of claim 37, comprising determining whether the compound is toxic to the cells.

- 53. (New) A method of screening a substance for its effect on undifferentiated human embryonic stem (hES) cells, comprising:
 - a) obtaining a culture of undifferentiated hES cells proliferating on an extracellular matrix instead of feeder cells;
 - b) combining the undifferentiated hES cells with the substance; and
 - c) determining any effect of the substance on the cells.
- 54. (New) The method of claim 53, comprising determining the effect of the substance on growth of the cells.
- 55. (New) The method of claim 53, comprising determining whether the compound affects differentiation of the cells.
- 56. (New) The method of claim 53, comprising determining whether the compound affects expression of a marker or receptor by the cells.
- 57. (New) The method of claim 53, comprising determining whether the compound is toxic to the cells.
- 58. (New) The method of claim 16, comprising causing the cells to differentiate into cells having characteristics of neuronal cells, glial cells, or neural precursors.
- 59. (New) The method of claim 16, comprising causing the cells to differentiate into cells having characteristics of hepatocytes.
- 60. (New) The method of claim 16, comprising determining the effect of the substance on growth of the cells.

PATENT 10/039,956 Docket 091/009c

- 61. (New) The method of claim 16, comprising determining whether the compound affects expression of a marker or receptor by the cells.
- 62. (New) The method of claim 16, comprising determining whether the compound is toxic to the cells.

Upon allowance of the application, please renumber the claims as follows:

Claim	1	\rightarrow	28	Claim	51
	16	\rightarrow	22		52
	37	\rightarrow	1		53
	38	\rightarrow	2		54
	39	\rightarrow	3		55
	40	\rightarrow	4	•	56
	41	→	5		57
	42	→	6		58
	43	\rightarrow	7		59
	44	→	8		60
	45	\rightarrow	9		61
	46	→	10		62
	47	\rightarrow	11		
	48	\rightarrow	12		
	49	-	13		
	50	\rightarrow	14		